Provisions: a tool for earnings management?

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Manipulating the annual account numbers can benefit every company, and lots of techniques are available to reach this aim. In Belgium, empirical data concerning the phenomenon of earnings management is rather rare, and perhaps the last "non-believers" have been convinced of its existence by the scandals around Lernout & Hauspie. Anyhow, one recent study (Vander Bauwhede et al., 2003) found that 39 listed Belgian companies do engage in income smoothing and manage earnings opportunistically to meet the benchmark target of prior-year earnings. In this paper, we examine whether the Belgian companies manage their earnings by focusing on their policy of provisions during the period 1997 - 2002. Concerning the technique of income smoothing, some proof has been found that companies engage in income smoothing by increasing or decreasing the provisions. What big bath accounting is concerned, no proof has been found, since companies do not seem to grant more donations to provisions in times of a declining profit figure.

1. Introduction

Companies have different reasons to present their numbers better (or worse). Some of the reasons for the creative approach of the figures are its impact on the value of the stocks, its impact on the borrowing costs, its impact on bonus plans, and its impact on political costs (Comiskey and Mulford, 2002). Depending on the economic situation of the company, there may be other motives, such as labor union contract negotiations and proxy contests, amongst others. So when taking decisions based on the annual report, it can be important to see in which situation the company finds itself, and therefore could have motives to manipulate the figures.

Different possibilities are available for accountants to manipulate the figures within the boundaries of the accounting law, so as to manage results at will (Amat et al., 1999). So the choice of a certain policy, as for instance the method of depreciation, can steer the figures in the desired direction. Also the fact that some of the balance sheet items are vulnerable to a certain measure of estimation and appreciation makes manipulation possible. Another possibility stems from the freedom the companies have concerning the time to perform certain transactions. Finally, the company can influence the numbers with the help of artificial transactions, as for instance the sale-and-lease-back policy.

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There are various techniques for managing the results, however the two most known and popular ones are "income smoothing" and "big bath accounting". With income smoothing, the management diminishes the fluctuations in the results, so as to obtain a more stable evolution over time. Big bath accounting is used by the accountants when the results are bad. The principle is that if a loss is made, it is better to enter some more costs so as to restart with a clean slate the following year. The "fiscal optimalisation" tries to diminish or to shift the taxable base by influencing the reported results. Further the accountant can strive to match the results of the former years ("results fixing") or just try to eliminate the losses ("loss diversion").

So management has lots of reasons, as well as lots of opportunities and techniques, to manipulate the figures. It is not surprising that the phenomenon of creative accounting is a much-examined field in the international literature. Hereby, use is often made of the term "earnings management", so as to avoid the negative sound of the term "manipulation". In this paper, we surely do not want to zoom into the many publications, so the interested reader is referred to Healy and Wahlen (1999), Stolowy and Breton (2000), Vander Bauwhede et al. (2003), amongst others.

In spite of the interest, only few studies have been performed concerning creative accounting in Belgium. In 1998, De Rijcke (1998) looked at 1 000 Belgian production companies to examine whether inventories, work-in-process and depreciations were used as techniques of earnings management. Results showed that inventories were used for (zero) results fixing, whilst the depreciation on these inventories was used to keep profits down when this variable increased. Also, for 118 big companies of the industrial industry, it was examined whether exceptional results, salaries and social charges were used as techniques for income smoothing. No proof for this phenomenon could be found. The only finding was that companies with a higher profitability are more concerned with income smoothing.

Somewhat contradictory with this general conclusion that Belgian companies are not really engaged with the phenomenon of earnings management, were the results of Vander Bauwhede et al. (2003). They tested the hypothesis whether Belgian companies engage in income smoothing and manage earnings opportunistically to meet the benchmark target of prior-year earnings. Concentrating on 39 companies, support for the hypothesis was found.

The purpose of this paper is to examine whether Belgian companies do manage their earnings by their policy of provisions. We assume that Belgian companies avoid large variability in reported income numbers, because of different reasons (Vander Bauwhede et al., 2003). By reporting stability in the reported earnings, the company can influence stakeholders' perception of the stability of the underlying economic earnings, and thus their assessment of the probability of bankruptcy of a firm. This might influence the terms of trade of a company with its various stakeholder groups such as customers, suppliers, short-term creditors and employees (all being important users of financial reporting in Belgium). Besides the engagement in income smoothing, we also examine the existence of big bath accounting.

Since all companies that meet certain legal form and size criteria are mandated to file financial statements with the Belgian National Bank, we include in our sample publicly as well as privately held companies. More particularly, we focus on all companies filing an individual annual report according to the complete scheme. Given the focus on the individual accounts, we also expect taxes to have a direct impact on accounting choices, and in

particular, earnings management. The reason is that Belgian companies only submit one set of individual accounts for both financial reporting and tax purposes.

2. The use of provisions by Belgian companies

One of the balance sheet items that can be used by the company as a means for earnings management is the item of "provisions". According to the Belgian accounting law, the "Provisions for risks and costs" intend to cover by their nature clearly defined losses and costs, which are likely or certain on the balance sheet date, but have no fixed amount.

Provisions make no part of real transactions, but are seen as the administrative assimilation of these transactions. This assimilation is based on the systems of measurement and income determination, which can be chosen and changed. Further, these include the estimates that are needed to come to a result. It is clear that a company has more latitude here than in real transactions, since administrative transactions are dependent of all subjective factors.

Before examining whether the provisions are used as a tool for earnings management, it might be interesting to give an overview of the use and the importance of this balance sheet item. For this overview, we focus on all those Belgian companies who filed an annual report according to the complete scheme during the period 1997-2002. All together, it concerns a sample consisting of 10 418 companies. Data can be obtained by the Belfirst, being a database that contains the financial statement data of all Belgian companies that are legally required to file financial statements with the Belgian National Bank.

In Belgium, it is legally prescribed to split up the "Provisions for risks and costs" into four categories, so as to increase the transparency. Out of Table 1, it becomes clear that 45% of the sample companies used at least one of the provisions in the beginning of the six-year period, a number that slightly increased during the investigated time span. When the totals are divided over the four categories, it becomes clear that provisions for taxes are rather exceptional, whilst provisions for other risks and costs (for instance concerning the environment, reorganizations, contracts, securities …) are the most used one.

TABLE 1: Number of companies, making use of the provisions

Categories of provision	**Absolute use**	**Use in % (∑= 10 418)**
"Provisions for risks and costs"		
1997	4 681	44,9 %
1998	4 774	45,8 %
1999	4 813	46,2 %
2000	4 892	47,0 %
2001	4 981	47,8 %
2002	5 035	48,3 %
1) Pensions and similar obligations		
1997	1 754	16,8 %
1998	1 803	17,3 %
1999	1 866	17,9 %
2000	1 928	18,5 %

2001	1 985	19,1 %
2002	2 076	19,9 %
2) Taxes		
1997	121	1,2 %
1998	126	1,2 %
1999	133	1,3 %
2000	130	1,2 %
2001	143	1,4 %
2002	124	1,2 %
3) Repair and maintenance costs		
1997	1 299	12,5 %
1998	1 308	12,6 %
1999	1 299	12,5 %
2000	1 260	12,1 %
2001	1 250	12,0 %
2002	1 213	11,6 %
4) Other risks and costs		
1997	3 579	34,4 %
1998	3 712	35,6 %
1999	3 729	35,8 %
2000	3 758	36,1 %
2001	3 823	36,7 %
2002	3 873	37,2 %

The question can be asked how many categories the companies use individually. In Table 2, the frequencies are limited for the years 1997 and 2002, since no distortions are found for the intermediate years. As is clear, only 0,2% of the companies are making use of all categories of provisions. Most companies do only use one category.

TABLE 2: Number of companies, making use of various provisions

Number of provisions	**Absolute use**	**Use in % ($\sum$ = 10 418)**
In 1997:		
0	5 737	55,1 %
1	3 016	28,9 %
2	1 274	12,2 %
3	375	3,6 %
4	16	0,2 %
In 2002:		
0	5 383	51,7 %
1	3 192	30,6 %
2	1 457	14,0 %
3	364	3,5 %
4	22	0,2 %

If we have a look at the importance of the balance sheet item, in terms of the balance total, it seems that for most of those companies that make use of the provisions, the provisions make up between 1 and 5% of the balance total.

3. The use of provisions as tool for earnings management

Now that the importance of the "Provisions for risks and costs" has been shown, the use of this balance sheet item as a means for income smoothing and big bath accounting can be examined. Hereby we base ourselves on the 10 418 companies filing an annual report according to the complete scheme (see above). The research methodology is based on the paper of Overboom and Vergoossen (1997), performing a similar research for the Dutch listed companies for the period 1988 to 1994.

Income smoothing

So as to examine whether Belgian companies smooth their income in the period investigated, being from 1997 to 2002, two patterns of income are compared. The first pattern is the reported (that is post managed) pattern of income, being the net income after taxes. The second pattern is the corrected pattern, being the reported income corrected for the mutation in the total provisions. The hypothesis to be tested can be stated as:

The policy of provisions of the Belgian companies, filing an annual report according to the complete scheme, does not lead to a smoother pattern of income.

The reported and the corrected income of the investigated companies are direct variables. When the equalization of this category of variables must be examined, it can be approached by means of the integrated squared difference. The differences between the mutations of the income numbers of successive years are squared and afterwards summed up. When the integrated squared second difference of the reported income numbers is smaller than the integrated squared second difference of the corrected income, there is an equalizing process coming from the mutations in the provisions.

However, the focus on the income numbers implies that companies of the sample, showing a loss, have to be eliminated out of the sample. This leads to a final sample of 4 312 companies. In this group of companies, fulfilling the criterion of profit, a distinction has to be made concerning the relation between the reported and the corrected income pattern (see Table 3).

TABLE 3: The relation between the reported and the corrected income pattern

Income pattern	**Number of companies (∑= 4 312)**
The reported income pattern is more equal than the corrected income pattern	1 639
The reported income pattern is not more equal than the corrected income pattern	899
There is no difference in income pattern	1 774

Giving the value of one for the 1 639 companies for which the reported income pattern is more equal, and the value of zero for the 2 673 others, a nominal variable is constructed, for which a binomial test is the best choice. For the calculations of p_0, the product is taken of 45% (being the percentage of companies using provisions, see Table 1) and 81% (so as to eliminate the 19% of the 4 312 companies that are only using the provisions of pensions and taxes, as these two categories of provisions are not suited for income smoothing). So the null hypothesis states that 36% of the investigated companies are smoothing their income.

Given these data, the z-value obtained is 2,75. Since 2,75 is no element of the acceptance zone (the critical z-value is 1,645), we have to reject the null hypothesis at the significance level of 5%, and accept the alternative hypothesis that more than 36% of the companies are smoothing their income.

As can be expected, performing the test by SPSS leads to similar results, since a p-value of 0,003 is obtained (see Table 4). So here as well, the statistical assimilation of the data gives a clear indication that the companies investigated (being those companies showing a profit and using the provisions of group 2 and 4) are smoothing their income by means of their provisions.

TABLE 4: The binomial test

		Categor	N	Observe Prop.	Test	Asymp. (1sided
binomiaal	Group	1,00	1639	,38	,36	,003[a]
	Group	,00	2673	,62		
	Total		4312	1,00		

a. Based on Z

Big bath accounting

After finding evidence supportive of income smoothing, it might be interesting to examine whether Belgian companies take up extra provisions in their annual reports, when a decline in profit takes place. Companies can apply this technique, so as to make a clean sweep in the bookkeeping system. The hypothesis to be tested can be stated as:

The policy of provisions is not used by the Belgian companies, filing an annual report according to the complete scheme, as a means for big bath accounting.

So as to examine the relation between the evolution of profits and the use of provisions, cross tables need to be constructed. Hereby a distinction has to be made between those companies having a rise or a decline in profits on the one hand, and between those companies granting a donation to the provisions or not on the other hand.

The focus of these distinctions makes clear that only those companies, showing a mutation in their income number and making use of the provisions at least once during the period

examined, can be integrated in the sample. This leads to a final sample of 6 356 companies (see Table 5). Since the income numbers of 1996 (needed for calculating the mutation in profit numbers for 1997) are not available, the period of investigation starts in 1998, ending in 2002.

TABLE 5: The cross-tables for 1998 – 2002

	Income after taxes	**Donation to provisions**		∑
		Yes	**No**	
1998	**Rise**	1 733	1 686	3 419
	Decline	1 451	1 486	2 937
	∑	3 184	3 172	6 356
1999	**Rise**	1 704	1 560	3 264
	Decline	1 509	1 583	3 092
	∑	3 213	3 143	6 356
2000	**Rise**	1 647	1 627	3 274
	Decline	1 522	1 560	3 082
	∑	3 169	3 187	6 356
2001	**Rise**	1 584	1 423	3 007
	Decline	1 680	1 669	3 349
	∑	3 264	3 092	6 356
2002	**Rise**	1 547	1 482	3 029
	Decline	1 706	1 621	3 327
	∑	3 253	3 103	6 356

By giving the value of one if a decline in profits is taking place and the value of zero if profit is rising and, analogously, by giving the value of one if a donation is observed and the value of zero if no donation took place, we become variables which can be situated on a nominal scale. So by using the chi-square test of Pearson, the null hypothesis can be tested that there is no significant negative relation between the change in income and the donations to the provisions.

Performing the test by using SPSS, the results can be divided into two groups at first sight. For 1998, 2000 and 2002 (see Table 6), the χ^2-value shows that the level of statistical dependence between the variables is low, whilst the p-value (being higher than the presumed level of significance) confirms that no significant relation between the variables exists. So the null hypothesis cannot be rejected for these three years under investigation.

TABLE 6: The chi-square tests for 1998, 2000 and 2002

1998

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	1,041 [b]	1	,308		
Continuity Correction [a]	,990	1	,320		
Likelihood	1,041	1	,308		
Fisher's Exact Test				,314	,160
Linear-by-Linear Association	1,040	1	,308		
N of Valid Cases	6356				

a. Computed only for a 2x2 table

b. 0 cells (,0%) have expected count less than 5. The minimum expected count is 1 465,73

2000

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	,54 [b]	1	,46		
Continuity Correction [a]	,50	1	,47		
Likelihood	,54	1	,46		
Fisher's Exact Test				,46	,23
Linear-by-Linear Association	,54	1	,46		
N of Valid Cases	6356				

a. Computed only for a 2x2 table

b. 0 cells (,0%) have expected count less than 5. The minimum expected count is 1 536

2002

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	,027 [b]	1	,871		
Continuity Correction [a]	,019	1	,890		
Likelihood	,027	1	,871		
Fisher's Exact Test				,880	,445
Linear-by-Linear Association	,027	1	,871		
N of Valid Cases	6356				

a. Computed only for a 2x2 table

b. 0 cells (,0%) have expected count less than 5. The minimum expected count is 1 478,76

For 1999 and 2001 (see Table 7), however, the χ^2-value is high, and the p-value is smaller than 0,05. So there seems to be a significant relation between the variables. However, before the null hypothesis is rejected, it has to be examined whether it concerns a positive or a negative relation.

TABLE 7: The chi-square tests for 1999 and 2001

1999

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	7,354 [b]	1	,007		
Continuity Correction [a]	7,218	1	,007		
Likelihood	7,355	1	,007		
Fisher's Exact Test				,007	,004
Linear-by-Linear Association	7,353	1	,007		
N of Valid Cases	6356				

a. Computed only for a 2x2 table

b. 0 cells (,0%) have expected count less than 5. The minimum expected count is 1 528,79

2001

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-	4,005 [b]	1	,045		
Continuity [a]	3,905	1	,048		
Likelihood	4,005	1	,045		
Fisher's Exact Test				,047	,024
Linear-by-Linear Association	4,004	1	,045		
N of Valid Cases	6356				

a. Computed only for a 2x2

b. 0 cells (,0%) have expected count less than 5. The minimum expected count is 1 462,81

For this reason, a correlation table is to be made up for both years (see Table 8). These make clear that since the Pearson correlation is positive, a positive relation exists between both variables under study. So it can be concluded that companies are not making more donations when a decline in profits is observed, but on the contrary when an increase in profits takes place. Since this is contradictory with the assumed hypothesis, the null hypothesis cannot be rejected neither for these both years.

TABLE 8: The correlation tables for 1999 and 2001

1999

		CHIPI9	DOT9
CHIPI9	Pearson	1	,034**
	Sig. (2-	.	,007
	N	6356	6356
DOT9	Pearson	,034**	1
	Sig. (2-	,007	.
	N	6356	6356

**. Correlation is significant at the 0.01

2001

		CHIPI0	DOT0
CHIPI0	Pearson	1	,025*
	Sig. (2-	.	,045
	N	6356	6356
DOT0	Pearson	,025*	1
	Sig. (2-	,045	.
	N	6356	6356

*. Correlation is significant at the 0.05

4. Future research

In this paper, it is examined whether the Belgian companies did manage their earnings by their policy of provisions during the period 1997 - 2002. Concerning the technique of income smoothing, some proof has been found that companies do smooth their income by increasing or decreasing the provisions. For the second technique, big bath accounting, no proof has been found, showing that companies do not grant more donations to provisions in times of a declining profit figure.

As for every research, some limitations can be mentioned. What the sample is concerned, we only concentrate on companies filing an annual report according to the complete scheme, since there is no legal prescription to split up the provisions in the annual report according to the abbreviated scheme. Besides, only companies with a TVA-number to be observed for every year of the investigated time span are included. So companies started after 1997 or ended before 2002, restructured or merged companies and the like are skipped, although this group might show an interesting behavior concerning provisions.

Also the results can be approached critically, since no account has been taken of the possible existence of natural equalization. Indeed, an equal result can be consciously brought about by management, however can be obtained without manipulations as well. It is impossible to distinguish between both kinds, and to examine which reason is prevailing.

It must be realized that for this kind of research, results are very dependent on the design of the study. So it is not unthinkable that by using another period of examination, another population or another methodology, other results would be obtained. So it might be interesting to perform a similar study, for instance by looking at the policy of inventories, by looking at a particular sector or by looking at companies showing a certain profit. It also might be interesting to look whether the motives for listed and non-listed companies to manipulate the figures, differ a lot.

Another possible research topic is to evaluate the various measures which have already been taken so as to limit the use of the possibilities of earnings management. So the consistency of the use of certain accounting methods, as for instance the policies of depreciation or revaluation, is of great importance, as well as a clear definition of items. Also the classification of the fair view as overriding principle and the introduction of corporate governance are a step in the right direction.

And last but not least, the use of IAS/IFRS standards will limit the creativity, for instance by emphasizing the substance over form principle. Also, because of the introduction of IAS 37, concerning provisions, some of the existing categories of provisions will have to be eliminated in the Belgian annual report, since they do not agree with the definition and the criteria of provisions, as written down in the standard. More specifically, the provisions of category 3 (provisions for repair and maintenance costs) and some of the other risks and costs booked in category 4 (like provisions for political risks, for general risks, for risks of exchange rates and the like) will have to be kept out in future. Clearly, management looses a tool for earnings management this way !!

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